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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,597	12/18/2001	Yoshihiro Ishikawa	217486US2	6185

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EXAMINER
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NGUYEN, DAVID Q

ART UNIT	PAPER NUMBER
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2681

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/017,597

Applicant(s)

YOSHIHIRO

Examiner

David Q Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 December 1801.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-12 and 14-24 is/are rejected.
- 7) ☒ Claim(s) 2 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,3-12,14-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Vilander et al (WO99/66748).

Regarding claim 1, Vilander et al disclose a method for changing wireless channels used in a communication between a base station and a mobile station, comprising the steps of: measuring an amount of information transferred between the base station and the mobile station (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91); comparing the measured amount of information with first and second threshold values corresponding to a transmission capability for a current wireless channel being used between the base station and the mobile station (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91); and changing the current wireless channel to the wireless channel with a higher transmission capability than that of the current wireless channel when the measured amount of information is above the first threshold value and changing the current wireless channel to the wireless channel with a lower transmission capability than that of the current wireless channel when the measured

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amount of information is below the second threshold value (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91).

Regarding claim 12, Vilander et al disclose a mobile communication system including a plurality of base stations and a mobile station communicating with the base station through a wireless channel, comprising: an information amount measuring part that measures an amount of information, transferred between the base station and the mobile station (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91); a comparator part which compares the measured amount of information with first and second threshold values predetermined for a current wireless channel being used by the base and mobile stations (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91); a wireless channel changeover part which changes the current wireless channel to a wireless channel with a transmission capability higher than that of the current wireless channel when the measured amount of information is above the first threshold value and changes the current wireless channel to a wireless channel with a transmission capability lower than that of the current wireless channel when the measured amount of information is below the second threshold value (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91).

Regarding claims 3 and 14, Vilander et al also disclose wherein said step a) consists of measuring the amount of information yet to be transmitted (see page 16, lines 11-17)

Regarding claims 4 and 15, Vilander et al also disclose wherein measuring the amount of information that has been transmitted during a predetermined time period (page 16, line 1 to page 17, line 9; page 16, line 25 to page 17, line 9).

Regarding claim 5 and 16, Vilander et al also disclose wherein said wireless channel changeover part changes the current wireless channel to the wireless channel with the higher transmission capability than the current wireless channel only if the measured amount of information has been successively above the first threshold value over a predetermined count of times (see col. 16, line 1 to col. 17, line 9).

Regarding claims 6 and 17, Vilander et al also disclose wherein said wireless channel changeover part changes the current wireless channel to the wireless channel with the lower transmission capability than the current wireless channel only if the measured information amount has been below the second threshold value successively over a predetermined count of times (see col. 16, line 1 to col. 17, line 9).

Regarding claims 7 and 18, Vilander et al also disclose wherein said wireless channel changeover part changes the current wireless channel to the wireless channel with the higher transmission capability than the current wireless channel only if the measured amount of information has been successively above the first threshold value over a predetermined count of times, and wherein said wireless channel changeover part changes the current wireless channel to the wireless channel with the lower transmission capability than the current wireless channel only if the measured information amount has been successively below the second threshold value over a further predetermined count of times (see col. 16, line 1 to col. 17, line 9).

Regarding claims 8 and 19, Vilander et al also disclose before changing the wireless channel, includes the steps of: determining whether the wireless channel intended to be changed over can be assigned to the communication; when it is determined that this is not the case, determining again whether the intended wireless channel can be assigned to the communication,

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after a predetermined time period; and when it is determined this is the case, changing the current wireless channel to the intended wireless channel (see col. 16, line 1 to col. 17, line 9).

Regarding claims 9 and 20, Vilander et al also disclose wherein said step c), before changing the wireless channel, includes the steps of: determining whether the wireless channel intended to be changed over can be assigned to the communication; when it is determined that this is not the case, entering an assignment request indicating changeover to the intended wireless channel into the base station and again determining whether the intended wireless channel can be assigned to the communication in order of the entered assignment request; and when it is determined that this is the case, changing the current wireless channel to the intended wireless channel (see col. 16, line 1 to col. 17, line 9).

Regarding claims 10 and 21, Vilander et al also disclose wherein said step c) includes the steps of: when at least one of an upper limit and a lower limit for a required transmission capability is set, determining whether the transmission capability of the intended wireless channel is either above the upper limit or below the lower limit; and when it is determined that the transmission capability of the intended wireless channel is above the upper limit or below the lower limit, disabling to change the current wireless channel to the intended wireless channel (see col. 16, line 1 to col. 17, line 9 and fig. 5 and fig. 7).

Regarding claims 11 and 22, Vilander et al also disclose wherein said step c) includes the steps of: when a lower limit of a required transmission capability is set, determining whether the transmission capability of the intended wireless channel is below the lower limit; when it is determined that this is the case, establishing the wireless channel shared by some

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communications between the base station and each of the plurality of the mobile stations, while reserving the current wireless channel (see col. 16, line 1 to col. 17, line 9 and fig. 5 and fig. 7).

Regarding claim 23, Vilander et al disclose a base station in a mobile communication system including a plurality of base stations and a mobile station communicating with the base station through a wireless channel (see fig. 2), comprising: an information amount measuring part that measures an amount of information transferred between the base station and the mobile station (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91); a comparator part which compares the measured amount of information with first and second threshold values predetermined for a current wireless channel being used by the base and mobile stations (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91); a wireless channel changeover part which changes the current wireless channel to a wireless channel with a transmission capability higher than that of the current wireless channel when the measured amount of information is above the first threshold value and changes the current wireless channel to a wireless channel with a transmission capability lower than that of the current wireless channel when the measured amount of information is below the second threshold value (see abstract; fig. 5; pages 13, line 12 to page 17, line 9; page 16, line 1 to page 17, line 10; fig. 4, 7-10; claims 1,40,87,91).

Regarding claim 24, Vilander et al disclose a mobile station communicating with a base station through a wireless channel in a mobile communication system including a plurality of base stations (see fig. 2), comprising: an information amount measuring part that measures an amount of information, transferred between the base station and the mobile station (see

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explanation in claim 1 and 23); a comparator part which compares the measured amount of information with first and second threshold values predetermined for a current wireless channel being used by the base and mobile stations (see explanation in claim 1 and 23); a wireless channel changeover part which changes the current wireless channel to a wireless channel with a transmission capability higher than that of the current wireless channel when the measured amount of information is above the first threshold value and changes the current wireless channel to a wireless channel with a transmission capability lower than that of the current wireless channel when the measured amount of information is below the second threshold value (see explanation in claim 1 and 23).

***Allowable Subject Matter***

3. Claims 2 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 2 and 13, Vilander et al fails to disclose wherein an amount of information yet to be transmitted is measured as said amount of information to be compared with the first threshold value, and wherein an amount of information currently being transmitted is measured as said amount of information to be compared with the second threshold value, as specified in claims 2 and 13.



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*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Q Nguyen whose telephone number is 703-605-4254. The examiner can normally be reached on 8:30AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Erika A Gary can be reached on 703-308-0123. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN

David Nguyen

  
ERIKA A. GARY  
PATENT EXAMINER